

IN THE CLAIMS:

1. (Currently Amended) A chemically ~~synthesized~~ modified double stranded short interfering nucleic acid (siNA) molecule ~~that directs cleavage of an amyloid precursor protein (APP) RNA via RNA interference (RNAi); comprising a separate sense strand and antisense strand, each strand having one or more pyrimidine nucleotides and one or more purine nucleotides,~~ wherein:
 - a. each strand of said the siNA molecule is about 18 to about ~~23~~ 27 nucleotides in length;
 - b. ~~one the antisense strand of said the~~ siNA molecule comprises ~~a nucleotide sequence having sufficient complementarity to said amyloid precursor protein (APP) RNA for the siNA molecule to direct cleavage of the APP RNA via RNA interference; about 18 to about 27 nucleotides that are complementary to human amyloid precursor protein (APP) RNA comprising SEQ ID NO:1905;~~
 - c. the sense strand is complementary to the antisense strand and comprises a portion of the APP RNA nucleotide sequence of about 18 to about 27 nucleotides;
 - d. about 50 to 100 percent of the nucleotide positions in each of the sense and antisense strands of the siNA molecule are chemically modified; and
 - e. about 50 to 100 percent of the purine nucleotides in one or both strands of the siNA molecule are 2'-O-methyl purine nucleotides and about 50 to 100 percent of the pyrimidine nucleotides in one or both strands of the siNA are 2'-deoxy-2'-fluoro pyrimidine nucleotides.
2. (Canceled)
3. (Currently Amended) The siNA molecule of claim 1, wherein ~~said siNA~~ the siNA molecule comprises one or more ribonucleotides.
4. (Canceled)
5. (Canceled)
6. (Canceled)

7. (Canceled)
8. (Canceled)
9. (Canceled)
10. (Canceled)
11. (Canceled)
12. (Canceled)
13. (Canceled)
14. (Currently Amended) The siNA molecule of claim ~~6~~ 1, wherein one or more purine nucleotides present in the sense ~~region~~ strand are 2'-deoxy purine nucleotides.
15. (Currently Amended) The siNA molecule of claim ~~6~~ 1, wherein about 50 to 100 percent of the pyrimidine nucleotides present in the sense ~~region~~ strand are 2'-deoxy-2'-fluoro pyrimidine nucleotides.
16. (Currently Amended) The siNA molecule of claim ~~9~~ 1, wherein the ~~fragment comprising said~~ sense ~~region~~ strand includes a terminal cap moiety at ~~a~~ the 5'-end, ~~a~~ the 3'-end, or both of the 5' and 3' ends of the ~~fragment comprising said~~ sense ~~region~~ strand.
17. (Previously Presented) The siNA molecule of claim 16, wherein said terminal cap moiety is an inverted deoxy abasic moiety.
18. (Currently Amended) The siNA molecule of claim ~~6~~ 1, wherein about 50 to 100 percent of the pyrimidine nucleotides ~~of~~ present in said the antisense ~~region~~ strand are 2'-deoxy-2'-fluoro pyrimidine nucleotides.
19. (Currently Amended) The siNA molecule of claim ~~6~~ 1, wherein about 50 to 100 percent of the purine nucleotides ~~of~~ present in said the antisense ~~region~~ strand are 2'-O-methyl purine nucleotides.
20. (Currently Amended) The siNA molecule of claim ~~6~~ 1, wherein one or more purine nucleotides present in ~~said the~~ antisense ~~region~~ strand comprise 2'-deoxy- purine nucleotides.
21. (Currently Amended) The siNA molecule of claim ~~18~~ 1, wherein ~~said the~~ antisense ~~region~~ strand comprises a terminal phosphorothioate internucleotide linkage at the 3' end of ~~said the~~ antisense ~~region~~ strand.

- 22. (Canceled)
- 23. (Canceled)
- 24. (Canceled)
- 25. (Canceled)
- 26. (Canceled)
- 27. (Canceled)
- 28. (Canceled)
- 29. (Canceled)
- 30. (Currently Amended) The siNA molecule of claim 9 ~~1~~, wherein ~~a 5' end of the fragment comprising said the~~ antisense ~~region strand optionally~~ includes a terminal phosphate group.
- 31. (Canceled)
- 32. (Canceled)
- 33. (Canceled)
- 34. (Canceled)
- 35. (Currently Amended) A composition comprising the siNA ~~of claim 33 together with~~ molecule of claim 1 in a pharmaceutically acceptable carrier or diluent.